

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
7 July 2005 (07.07.2005)

PCT

(10) International Publication Number
WO 2005/060357 A3

(51) International Patent Classification⁷: **H04L 27/26**,
29/06, 29/08

(21) International Application Number:
PCT/KR2004/002435

(22) International Filing Date:
22 September 2004 (22.09.2004)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
10-2003-0095011
22 December 2003 (22.12.2003) KR

(71) Applicants (for all designated States except US): **ELECTRONICS AND TELECOMMUNICATIONS RESEARCH INSTITUTE** [KR/KR]; 161, Gajeong-dong, Yuseong-gu, Daejeon 305-350 (KR). **SAMSUNG ELECTRONICS CO., LTD.** [KR/KR]; 416, Maetan-dong, Yeongtong-gu, Suwon-si, Gyeonggi-do 442-742 (KR). **KT CORPORATION** [KR/KR]; 206, Jeongja-dong,

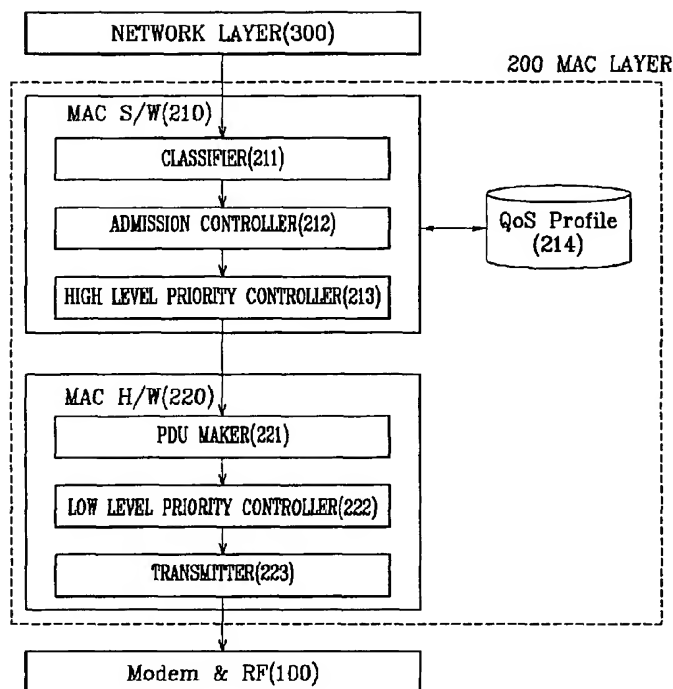
Bundang-gu, Seongnam-city, Gyeonggi-do 463-711 (KR). **SK TELECOM CO., LTD.** [KR/KR]; 99, Serin-dong, Jongro-gu, Seoul 110-110 (KR). **KTFREETEL CO., LTD.** [KR/KR]; 890-20 Daechi-dong, Gangnam-gu, Seoul 135-280 (KR). **HANARO TELECOM, INC.** [KR/KR]; Shindongah Fire & Marine Insurance Building, 43, Taepyeongno 2-ga, Jung-gu, Seoul 100-733 (KR).

(72) Inventors; and
(75) Inventors/Applicants (for US only): **LEE, Seung-Que** [KR/KR]; Expo Apt 301-1404, Jeonmin-dong, Yuseong-Gu, Daejeon-city 305-761 (KR). **PARK, Nam-Hoon** [KR/KR]; Hanvit Apt 120-1001, Eoeun-dong, Yuseong-gu, Daejeon-city 305-755 (KR). **AHN, Jee-Hwan** [KR/KR]; 149-7 Sinseong-dong, Yuseong-gu, Daejeon-city 305-345 (KR). **CHO, Choong-Ho** [KR/KR]; Daelim Handeul apt. 205-1105, Sinboo-dong, Cheonan-city, Chungcheongnam-do 330-160 (KR).

(74) Agent: **YOU ME PATENT AND LAW FIRM**; Seolim Bldg., 649-10 Yoksam-dong, Kangnam-ku, Seoul 135-080 (KR).

[Continued on next page]

(54) Title: WIRELESS INTERNET TERMINAL AND PACKET TRANSMISSION METHOD FOR IMPROVING QUALITY OF SERVICE



(57) Abstract: Disclosed are a terminal of an OFDMA-TDMA wireless Internet system capable of reducing transmission delay time while securing QoS for uplink data and a packet transmission method. A MAC layer (200) of the terminal is divided into a MAC software part (210) and a MAC hardware part (220) to control priorities of data packets at a high level and low level. The high level priority controller (213) carries out various fine control operations according to a QoS policy and the low level priority controller (222) performs mechanical control operations based on a predetermined simple fixed priority policy.

WO 2005/060357 A3



(81) **Designated States** (*unless otherwise indicated, for every kind of national protection available*): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) **Designated States** (*unless otherwise indicated, for every kind of regional protection available*): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE,

SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

- with international search report
- before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments

(88) **Date of publication of the international search report:**
26 January 2006

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.